DOCUMENT RESUME

ED 389 000 CS 215 151

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TITLE Facing the Future: Attitudes of Journalism Educators and Students about New Media Technology.
PUB DATE Aug 95
NOTE 32p.; Paper presented at the Annual Meeting of the Association for Education in Journalism and Mass Communication (78th, Washington, DC, August 9-12, 1995). Table 1 contains very small type.
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Attitude Measures; *Futures (of Society); Higher Education; Journalism; *Media Adaptation; Media Research; Q Methodology; *Student Attitudes; *Teacher Attitudes; *Technological Advancement
IDENTIFIERS Diffusion of Innovations Research; *Media Adoption; *Professional Concerns

ABSTRACT

A study used Q-methodology to examine attitudes of 42 journalism students and educators at a midwestern university toward new media technology. Subjects read a sample of opinion statements and placed them along an 11-point scale. Four factors were identified: "Champions of Change"; "Pessimistic Prophets"; "Laid-Back Liberals"; and Skeptical Optimists." Results indicated that Champions of Change were eager, seeing technology primarily as a tool empowering users. Other factors expressed profound concerns about issues ranging from manipulation potential to an increasing knowledge gap among media consumers. Stated in terms of diffusion theory, Champions of Change--while they may not currently be using new media technology as they define it--are likely to become the early adopters, and perhaps even the innovators, of new media technology. (Contains 10 references and 1 table of data.) (Author/RS)

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FACING THE FUTURE:

Attitudes of Journalism Educators and Students About New Media Technology

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Presented to:

Communication Technology and Policy Division
Association for Education in Journalism and Mass Communication
Annual meeting, August 1995

ED 389 000

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ABSTRACT

FACING THE FUTURE:
Attitudes of Journalism Educators and Students
About New Media Technology

The media are being transformed by sweeping changes in the way information is gathered, processed and disseminated. This study, which uses Q-methodology to examine attitudes of journalism students and educators at a Midwestern university toward new media technology, identifies four factors. Champions of Change are eager, seeing technology primarily as a tool empowering users. Other factors express profound concerns about issues ranging from manipulation potential to an increasing knowledge gap among media consumers. Results of the study are discussed in light of the theory of diffusion of innovation.

FACING THE FUTURE:
Attitudes of Journalism Educators and Students About New Media Technology

It has become impossible to use any of our traditional news media without being told something about how those uses, as well as the media themselves, are being transformed. Information about information -- the Information Age, the Information Superhighway, the Information Revolution -- is inescapable and, inescapably, contributes to the ways in which those changes are perceived. For journalists and journalism educators, the bombardment hits particularly close to home. As members of the general public, of course, they see the same stories as everyone else: about business deals made and broken, about shifting communication policies, about the real and potential impacts of technological change. The number of such stories is increasing by exponential leaps and bounds; for example, the term "information superhighway," which appeared in seven news stories in 23 major print and broadcast outlets in January and February 1992, appeared in 1,145 stories in those same media in the first two months of 1994. (Pavlik and Szanto, 1994)

But as people in the business of communication themselves, media professionals face additional pressures. Quite aside from the voluminous coverage in the mainstream press, journalists cannot open an industry publication without being told how their own jobs have changed, are changing and will continue to change. Articles on new media technology and its implications for journalists appear with increasing frequency in the nation's two major journalism reviews, as well as in Quill, the publication of the profession's largest umbrella

organization, the Society of Professional Journalists. A small sample of offerings within the past two years:

* American Journalism Review reported last year that although phone companies, cable systems and entertainment producers are "rushing headlong into the new interactive world," the print media are trying "to figure out how they fit in." (Moeller, 1994) AJR also reported recently on explorations of alternate delivery mechanisms by both Knight-Ridder and the Tribune Company, publisher of the Chicago Tribune.

* Last fall, Columbia Journalism Review offered an article titled "Opening Up, Online: What Happens When the Public Comes at You From Cyberspace?" The benefits, according to the story, include "a heightening of journalistic accountability and the opportunity to know better the needs of the people journalism serves, notions too often overlooked in the world of paper and ink." (Wolff, 1994) A year earlier, as part of a cover story titled "Future Tense: Riding the High-Tech Wave," CJR offered this vision of "tomorrow's journalist": "The reporters (the ones equipped with the multimedia kits) will come to their editors and say 'Here are the still photos we need to shoot, here's the video we need, here's the audio to record, here are some new ways to illustrate this information, and here's my script.' Editors will have to be equally adept." (Oppenheimer, 1993)

* Quill has been especially devoted to covering industry change. Its March 1995 cover, for example, offered "Big Talk From Online Services: Who's Got What for Journalists." The previous spring, back-to-back issues featured a special report on new information technology and its impact on media content, economics and employees, followed by an issue whose cover story was "TV News in the Information Age: Boom or Bust?" Articles included "Will The Techno Tsunami Wash Us Out?" and "Driving the Info Highway Without a Map." Quill's "Technology and the Media" section also provides regular updates on journalistic forays into the online world.

Journalism educators, who help shape the ideas and attitudes of those joining the profession, also have begun to be inundated with information about new media technology. Academic exploration of the new media in their first decade was relatively sparse, with articles on "new technology" accounting for just under 10 percent of the articles that were specifically about telecommunications in 15 scholarly journals from 1984 to 1989. (Vincent, 1991) But that pace

has picked up considerably in the 1990s. Articles now appear with some regularity in the Journal of Communication, Journalism Quarterly and Communication Research, along with many of the more narrowly focused scholarly journals. Topics of recent discussion have ranged from the application of First Amendment rights to the Baby Bells as the telephone system becomes "a significant information medium to which mass communication concepts ... are relevant" (O'Neill, 1994) to an examination of virtual reality, described in the editor's note prefacing a special Journal of Communication symposium as "too important, too wondrous, too powerful, to permit continued disciplinary ignorance." (Levy, 1992)

In light of the growing attention to new media among both journalists and journalism educators, this exploratory study considers the attitudes toward the new media among one group of soon-to-be journalists and current journalism professors. It attempts to increase our understanding of the concerns that may shape not only journalists' own decisions to adopt these innovations but also the way journalists and journalism educators structure communication about evolving technologies for their audience. That audience includes journalism students, researchers and practitioners, as well as members of the reading and viewing public.

After the method and results are described, the results will be discussed in the context of the theory of diffusion of innovation. This theory is appropriate because both journalism educators and their students, who are about to become new newsroom employees, are likely to play a vital role in shaping attitudes toward new media.

METHOD

Journalism students and faculty members at a major Midwestern university described their attitudes by Q-sorting statements about new media. "New media" means different things to different people. For some, cable TV may be seen as a new medium. Others would not think of cable as new but might think of hypertext and interactive media that way; still others may not yet be fully aware of those technologies. Therefore, for the purpose of this study, the term "new media" was not defined for participants. Rather than being limited to a definition that might have excluded or included more than their perceptions, participants were left to define the term for themselves. This procedure does widen the potential range of responses, but in an exploratory study such as this one, it was deemed better to be very broad than very narrow. In addition, the methodology used here is self-referential: Definitions emerge from the actions of the respondents, rather than being assumed or determined beforehand.

Q methodology (described in McKeown and Thomas, 1988, and Brown, 1980) was used for this study because it is particularly well-suited to developing exploratory understandings of people's attitudes -- an appropriate goal given the newness of the study of new media. Q methodology does not make claims to generalizability, but provides a rich depiction of the attitudes of small groups or even individuals. The method is not designed to answer questions concerning how MANY people of a particular type exist out there in the world. Rather, it offers a way to identify various attitudes, opinions or beliefs that people hold about a particular topic.

Subjects in this study were almost equally divided among three

groups: undergraduate students, graduate students and faculty. All the grad students and faculty had professional journalism experience, and seven of 13 undergraduates had professional or intern experience. The 42 subjects ranged in age from 19 to 67, with a median of 34. Eighteen were women. All were computer-literate. All but seven had used Internet or e-mail; half had a home computer with a modem.

The subjects were asked to read a sample of opinion statements (e.g., "The new media will narrow the information gap between the rich and the poor") and place them along an 11-point scale that ranged from most disagree (- 5) to most agree (+ 5). Forty-eight statements were used from several hundred gathered from articles in the popular and professional press about new media, as well as from interviews with faculty and students. The final 48 statements were selected by one of the authors, using a structured sampling process common in Q methodology. The original statement population is first divided into categories. (Note that, in Q, the "population" and "sample" consist of statements, not people, and the output factors consist of people, not variables.) A balanced mix of positive and negative statements, designed to express the range of viewpoints in the original group, are chosen from these categories. Table 1 shows the statements used here.

Following normal Q-methodology procedures (McKeown and Thomas, 1988; Brown, 1980), the Q-sorts were correlated and factor-analyzed, producing four attitudinal types, or people who think about new media in similar ways. After varimax rotation, the principal components matrix accounted for 53 percent of the variance (19, 14, 11 and 9 percent, respectively). Factor loadings of .420 were considered significant ($p < .01$).

Standardized statement arrays for each factor also are presented in Table I. For any factor, the two highest (+) Z-scores can be considered equivalent to + 5 on the original 11-point scale.

Factor One, with 15 subjects, was the largest. Sixty percent female, the factor's median age was 38. All but three had used the Internet or e-mail, and eight had home computers with modems. All but one had professional experience.

Factor Two had 14 subjects and a median age of 34. It was equally split between women and men and between those with or without home computers and modems. All but two had journalism experience.

Six of the eight people on Factor Three were men. All but one on the factor had used Internet or e-mail, although only two had access to a computer at home. Half had professional experience. The median age was 26, although the factor included the study's oldest participant, a 67-year-old male.

All of the five on Factor Four were men with considerable journalistic experience. All were Internet or e-mail users, but only two had home computers with modems. The median age was 37.

Interpretation of the factors incorporated use of the demographic data, the factor Q-arrays and the comments that subjects made about the statements with which they most agreed and disagreed.

RESULTS

Based on the interpretations, the factors were named (I) Champions of Change, (II) Pessimistic Prophets, (III) Laid-Back Liberals and (IV) Skeptical Optimists.

FACTOR ONE: Champions of Change

Champions of Change are ready for the computer age. They are by far the most eager of all the factors to be a part of the change they see coming on, as well as the least concerned about its social implications. They see tremendous potential for the new media to improve their own lives. They believe these media are empowering and will fundamentally affect both the way we access information as consumers and the way we provide it as journalists.

Champions of Change, who make up the largest of the factors, include nine women and six men, with ages ranging from late teens to mid-40s. Although they believe they have seen the future, the image may be somewhat illusory for some; two of the three people who loaded most heavily on this factor indicate they do not use the Internet or e-mail and do not have a computer with a modem at home.

Champions of Change are prepared to incorporate new media technology into their lives, including their jobs, their entertainment and the way they communicate. They agree most strongly (+ 5, z=2.21) with Statement 1 ("The possibilities created by new media technology are exciting"), an emotional statement rather than one that expresses a more concrete aspect of new media. Part of their excitement stems from the opportunities they see new technologies providing for both audience and media. The audience will gain an increased role through the ability to provide almost instant feedback to media organizations. Those organizations, along with being able to offer entertainment and news on demand, will need to incorporate feedback into their product.

But Champions of Change, while they recognize both the personal and institutional potential of new media, also realize new

technologies place a burden on the existing media and on those associated with it. Beyond their initial excitement, they recognize that new technologies mean journalists will need to learn new ways of writing and working; they strongly agreed (+ 5, z=1.80) with Statement 5 ("The new media will call for different ways of teaching people how to write and work for the media"). These are people who ought to know; only one of our 15 Champions does not have at least some professional journalism experience. They see the new technology as a boost to the industry IF the industry learns to use it; they agreed more strongly than any of the other factors (+ 4, z=1.74) with Statement 30 ("It is important for the future of the newspapers that they try to exploit their information franchise to develop products for readers that use existing and emerging electronic technologies").

Champions of Change are the only factor to agree (+ 2, z=0.80) with Statement 26 ("If, as author/journalist John Katzenbach says, 'Information is the currency of journalism,' you had better learn how to operate the ATM because there often isn't a teller anymore"). As one respondent said, "With advertising and circulation declining and other companies jumping into the information business, it's essential to the long-term survival of newspapers that they use these new forms of communication."

These attitudes also show up in the statements with which Champions of Change most disagree. Someone afraid of being replaced by a machine would not be excited about the new technology and, in fact, our Champions do not think the changes they foresee will eliminate their jobs. They disagree most heartily with Statements 7 ("New media technology will eventually eliminate my job"; z=-1.76) and

39 ("Interactive media will make journalists obsolete"; z=-1.71). "Far from eliminating my job," one respondent exclaimed, "new media technologies will create jobs we haven't imagined yet -- thousands of them!"

Champions of Change also strongly disagree (- 3, z=-1.19) with Statement 21 ("New media potentially could decrease the number of viewpoints"). One person who loaded heavily on this factor said new technology "will increase the number of viewpoints because more choice of stories and columns will be available. Papers don't have the space to run them now. Electronic papers can have nearly unlimited news hole." In fact, the potential that Champions see in the new technology even exceeds the promotional efforts of media organizations; they disagree (- 3, z=-1.26) with Statement 46 ("The capabilities of interactive media are over-rated").

Champions of Change, then, think new media technology will cause fundamental changes in the way people communicate, gain knowledge and entertain themselves. And although they have some reservations about those changes, they appear unafraid of them. Champions see the new media as something they can control, not as something that controls them. They disagree with the Pessimistic Prophets of Factor Two, for example, about the manipulative power of new media. Nor do they see new media as necessarily divisive, as do the Laid-Back Liberals on Factor Three. Like the Skeptical Optimists on Factor Four (with whom they have much in common), they believe new media actually can strengthen our sense of community.

Champions of Change are not blind to possible social problems caused by new media, however. Privacy troubles them the most -- as can

be expected from someone who envisions himself or herself personally using new media and thus thinks of problems as a user, not an outsider. The Champion is in control of his or her own use of the new media -- but cannot control what use OTHERS may make of the information available and is somewhat troubled by that fact. For example, Champions of Change disagree rather strongly (- 4, z=-1.40) with Statement 22 ("Privacy is not a problem with the new media"), and express some concern about the potential for government regulation, as well. They also may recognize other ethical concerns; Champions of Change agree (+ 3, z=1.10) with Statement 4 ("There are some serious ethical problems related to the new media technology"), and one respondent commented that "the widening of the information gap and knowledge gap has been one of my concerns for 10 years."

As a group, Champions of Change believe a communications revolution is not far away. They are comfortable with both technology and the prospect of change.

FACTOR TWO: Pessimistic Prophets

Like biblical prophets, the seven women and seven men on our Factor Two cry out about the social ills they see looming because of a destructive activity that society will practice only at its peril. Pessimistic Prophets see serious problems with new media and may believe they are trying to warn of the dangers while everyone else is extolling the virtues of technological change: "New media comes in disguised as a friend," says one. The Pessimistic Prophets are afraid of new media technology and feel overwhelmed by it. Only one of the five statements with which they agreed most strongly was optimistic.

The Pessimistic Prophets' strongest fear about the social effects of new technology centers on a concern about manipulation of the individual user; the Prophet is particularly worried by authoritarian aspects of new media that threaten deeply held values and beliefs. The Prophets disagreed most strongly (- 5, z=-2.36) -- and much more vehemently than did any other factor -- with Statement 16 ("I am not concerned about the potential for manipulation"). And they were alone in agreeing (+ 4, z=1.09) with Statement 19 ("A tool is something you manipulate; technology manipulates you. That's a danger of new media"). As the woman who loaded most purely on this factor commented: "New media is the potential for manipulation. If allowed, it could be a problem beyond control. It's bad enough already."

Perhaps for similar reasons, Pessimistic Prophets are worried about privacy. They disagree strongly (- 4, z=-2.03) with the statement that "Privacy is not a problem with the new media." More broadly, they express a strong concern with ethical implications of new technology. The statement with which they agreed most strongly (+ 5, z=2.11) was Statement 4 ("There are some serious ethical problems related to the new media"); not only was their z-score on that statement significantly higher (a difference of greater than 1.0) than that of any other factor, it also was 0.73 higher than their OWN z-scores for any other statement with which they agreed. As one Pessimistic Prophet put it, "Privacy, truth and fairness will decrease as diffusion [of new media technology] occurs."

The Pessimistic Prophets have several specific ethical concerns about the new media and their effects on society. They disagree (- 3, z=-1.32) with Statement 42 ("The new media will narrow the information

gap between the rich and the poor"). They also reject (- 3, z=-1.25) the idea contained in Statement 25 ("New media technology can help create a better sense of community"). As one put it, "If the viewer is allowed to retrieve only what they [sic] want, their interests will turn to self, and not towards their community."

The Prophets fear that people will become immersed in their own interests and less aware of the larger world because of new media's ability to allow users to choose only the news they want, thus missing salience cues provided by traditional media through headlines, layout or story placement. Pessimistic Prophets strongly agree (+ 4, z=1.15) with Statement 13 ("The ability to select only what you want may result in missing salience cues about the world. For example, if you want to read only sports, you may at least glance at the front page and note the headlines, thereby getting some other news"). In the words of one, "Missing salience cues could result in: closed minds, ignorance, negligence, etc." The Pessimistic Prophets are also dubious about the notion that new forms of television "could bring families closer"; they strongly disagree (- 4, z=-1.62) with Statement 41 ("The new television could bring families closer. Because it would satisfy so many of our entertainment and informational needs at home, family members should find themselves gathering in the home more often").

This factor also feels overwhelmed, fearing that new media technology is bringing sweeping changes and outrunning society's ability to understand and control it. The Pessimistic Prophets are uncertain of the promise of the future and appear acutely aware that change does not necessarily mean change for the better. The group's expectation of profound change is evident in its strong disagreement

(- 5, z=-2.17) with Statement 12 ("The new media won't fundamentally change the way we communicate and gain knowledge"). Champions of Change and Skeptical Optimists (factors one and four, respectively) also disagreed with this statement, but much less strongly. The Prophets' sense of failing to keep pace with change also comes through in strong agreement (+ 5, z=1.38) with Statement 34 ("Education is lagging technology in general"). The Pessimistic Prophets' perspective on education is reflected in the comments of one respondent: "Changes in education are constantly needed and not attended. Technology is rapidly changing and is past the rate of change in education twice over."

Despite this sense of being overwhelmed, though, the Prophets, who range in age from 19 to 49, are perhaps being drawn onto the new media bandwagon -- and not entirely against their will. For example, they agree strongly (+ 4, z=1.30) with Statement 1 ("The possibilities created by new media technology are exciting").

At the same time, the Pessimistic Prophets believe new media will not have an enormous impact on what they do as professionals. They strongly disagree (- 4, z=-1.45) with Statement 39 ("Interactive media will make journalists obsolete.") and, less strongly (- 3, z=-0.89), with Statement 7 ("New media technology will eventually eliminate my job."). More generally, they believe -- whether in hope or in denial -- that changes are less than imminent; the Prophets agree (+ 3, z=0.97) with Statement 9 ("For the vast majority out there in the real world, new media technology is going to be something they'll read about, but it's not going to affect their lives to any great degree. At least not for 5 to 10 years.").

Interestingly, the fears and predictions of the Pessimistic Prophets do not come from ignorance about new media. Eleven of the 14 people on this factor say they use Internet or e-mail, and six have computers with modems at home; only two of the younger respondents lack media experience. For the people on this factor, however, use of new media means something far short of wholehearted acceptance.

FACTOR THREE: Laid-Back Liberals

The Laid-Back Liberal sees new media as problematic but is less concerned with manipulation than the Pessimistic Prophet. This difference may stem from the Liberals' belief that most people, themselves included, can think and act independently and therefore are not easily manipulated by technology. The Liberal sees people who use new media technology as active decision-makers, not passive subjects of social control. As the most highly loaded respondent on this factor put it: "Technology doesn't manipulate -- corrupt people in power do."

These two women and six men -- who range in age from 19 to 67, the oldest of any respondent -- are fiercely individualistic, agreeing far more strongly than any other factor (+ 3, z=1.08) with Statement 33 ("I want electronic interaction to be as individualistic and anarchic as it has been"). Laid-Back Liberals see the user in control of technology -- and they consider user control an attractive feature. They like the idea of being able to retrieve what they want when they want it.

More than half the Laid-Back Liberals are young men at or near the start of their journalism careers; four of the Liberals do not yet have professional experience. However, all but one Liberal has used

Internet or e-mail, and most also have computers with a modem at home. Yet while they are aware of the possibilities of new media technology, they do not see it becoming pervasive any time soon. They believe real changes are at least five years away; the group gave its highest nod of agreement (+ 5, z=1.86) to Statement 9 ("For the vast majority ... [new media technology] is not going to affect their lives to any great degree. At least not for 5 to 10 years"). Furthermore, new media technology, as an emerging phenomenon, remains largely inaccessible to a wide audience, the Liberal believes. As the respondent who loaded most highly on this factor said: "That's how technology is -- it's available to a select few until it's been out a while."

Computers do not seem to threaten the Laid-Back Liberals' future as professional journalists. They disagree vehemently (- 5, z=-2.02 and -1.70, respectively) with Statements 39 ("Interactive media will make journalists obsolete") and 7 ("New media technology will eventually eliminate my job.") -- the same two statements with which the Champions of Change most strongly disagree. "No matter how interactive the media are," one Liberal said, "we still need someone to get the news from the scene."

What makes this group distinctive is its concern about elitist aspects of new media and their effect on a pluralistic society. The Pessimistic Prophet sees new media as a threat to the individual, both in isolation and as a member of a broader community. The Liberal sees these media as a threat to the social cohesion linking the individual members of that community. Laid-Back Liberals are extremely concerned about new technology's potential to deepen divisions among the social classes, threatening communication across the widening gulf. They

believe new media might increase the information gap, disagreeing (- 3, z=-1.50) with Statement 42 ("The new media will narrow the information gap between the rich and the poor"). Liberals commented that "New media technology is often expensive, which means only people in higher social classes can afford it," and "using interactive media usually requires higher education."

Perhaps some of this concern stems from a worry that they personally might be left behind. For example, Liberals -- the group with the highest percentage of "Generation Xers," five of the eight people on this factor -- are more sensitive than the other factors to the potential effect that age differences will have on perspectives about new media. They agree very strongly (+ 5, z=1.67) with Statement 18 ("I would guess there is a big difference in perspective about the new media depending on age"). Nor do they think new media technology will help unite families, disagreeing (- 3, z=-1.08) with Statement's 41 proposition that new media will bring families closer together.

However, they seem uncertain whether new media will limit the number of ideas to which people are exposed. Liberals disagree more strongly (-4, z=-1.66) than the other factors with Statement 21 ("New media potentially could decrease the number of viewpoints"), yet they strongly agree (+ 4, z=1.43) with the lack of salience cues provided by new media described in Statement 13. Perhaps the Liberals recognize both the potential breadth of the new media AND the potential for the user to actively limit the range of ideas to which he or she chooses to become exposed.

Like everyone else, the Liberals see privacy as a potential problem with new media, strongly disagreeing (- 4, z=-1.56) with

Statement 22 ("Privacy is not a problem with the new media"). They are concerned about manipulation, but again, they see that manipulation coming from other people and not technology itself.

The statements about which Laid-Back Liberals do not express a strong opinion also are telling. Liberals are less excited than the other factors about new technology, agreeing only weakly (+ 1, z=0.50) with the statement that new media technology creates exciting possibilities. This relative lack of enthusiasm is understandable, given the Liberals' social concerns and their belief that technology will not change their lives that much in the near term. They are willing to give new media technology a try -- if it is available to them -- and they are not afraid of it. Yet they will bring a large grain of salt and a sizable serving of concern for social costs to the table with them when they dig into this new technology.

FACTOR 4: Skeptical Optimists

The Skeptical Optimist wants to believe in the potential of new media to improve society as well as the personal quality of life -- but is not convinced they will. He (the five Skeptical Optimists are all male, ranging in age from 33 to 53) sees new media as a tool that is both personally and socially empowering. The Skeptic agrees very strongly (+ 5, z=1.87) with Statement 25 ("New media technology can help create a better sense of community"), and his z-score on that statement is significantly higher (1.0 or more) than that of any other factor. He also strongly agrees (+ 4, z=1.50) with Statement 8 ("New media technology developments will help to improve my quality of life."). He disagrees very strongly (- 5, z=-1.71) with Statement 43

("Interactive media are impersonal and depersonalizing"), seeing new media as potential agents for positive change.

However, more than the other factors, Skeptical Optimists express a lack of conviction about the future. They might be characterized as Champions of Change with their feet firmly planted on the ground. They agree with the Champion that new technology has enormous inherent potential; all the Skeptics use e-mail or Internet, so they all have personal experience with at least one aspect of that potential. Yet they are somewhat cynical about the likelihood that the potential will be realized, and so are reluctant to get on board. The Pessimistic Prophets are pretty sure the future will be dark; the Champions of Change are prone to think it will be rosy. The Skeptics think it COULD be rosy, but probably won't be. For example, although new media can help create a better sense of community, they likely will deepen divisions among the social classes (+ 3, z=1.11 on Statement 48).

The demographics show that each of our Skeptical Optimists is a child of the mid-twentieth century, aged 33 to 53, probably a member of the middle class, living in an upscale, education-oriented community -- and he is on the predictable guilt trip. He believes he is a relatively privileged member of society now and will be in the future; hence, his belief that he will benefit from new media technology. But he also is troubled by his social conscience. He sees new media as one more potentially empowering tool that will fail to live up to its ability to create positive changes for society as a whole and may even hasten social fragmentation. He recognizes the controlling elements of new technology -- and believes he will be among the people to exercise that control.

For example, he does not think the new media will narrow the information gap between rich and poor (- 4, z=-1.15 on Statement 42), and fears that new media may actually decrease the number of viewpoints (+ 2, z=0.77 on Statement 21). In the words of one respondent: "If somebody is far away from new media technology, he/she will be isolated in society." Interestingly, and perhaps ironically, he is not greatly concerned with privacy, ethics or manipulation, and is somewhat more open than the other factors to the idea of government regulation to address the potential abuses of new media (though the Pessimistic Prophets also are willing to consider the possibility); the Skeptic disagrees (- 3, z=-1.06) with Statement 23 ("The government should not regulate new media").

Their age indicates Skeptical Optimists are fathers of relatively young children -- or at least have friends who are. The Skeptical Optimist is particularly sensitive to the cluster of statements (Nos. 14, 18 and 45) relating to the difference of perspective between children and adults; he thinks the new media will isolate him from the next generation, perhaps much in the same way he felt isolated from his parents' generation by other enormous social changes. For example, he agrees more strongly (+ 3, z=0.97) than the other factors with Statement 14 ("I think the new media will create a huge generation gap as to how we conceive knowledge and what knowledge means").

Finally, the Skeptic is much more socialized as a journalist (a profession that rewards and reinforces skepticism) than the other factors, which have a mix of undergraduates and older respondents. He tends to evaluate new media professionally as well as personally and vehemently disagrees with the idea that these media will eliminate his

job (- 5, z=-2.06 on Statement 7). He does not see the new media as a potential threat, perhaps because people still will need a mediator to help make sense of information.

However, he does see new technology as something that will profoundly affect his job and his industry. He agrees (+ 5, z=1.74, and + 3, z=1.32, respectively) with Statements 6 ("New technologies will make it possible and necessary for those in the news business to incorporate feedback into what they produce") and 5 ("People in the media will have to think more about the content of news and less about the specific means of telling the story"). He is more convinced than other factors that new technologies differ significantly from previous ways of communicating information; he strongly disagrees (-4, z=-1.5) with Statement 35 ("The new technologies are not providing new information, merely the same stuff in different packages").

CONSENSUS ITEMS

The four factors agree on the relative placement (within +/- 1.00 Z) of several statements, including four (statements 10, 27, 32 and 37) that indicate a degree of ambivalence and uncertainty about new media. Of the four, Statement 27 ("For the consumer's standpoint, the information future is rich with choice and possibility. For journalists, it is much more troubling ... people won't need a mediator any more") elicit the strongest reaction; though all four factors disagree, the Skeptical Optimist (who generally is more attuned to statements directly relating to journalists' roles) disagrees most strongly (- 4, z=-1.19). The four are in almost perfect harmony about Statement 32 ("When I look at where we were 10 years ago

and where we are today, I don't know if anyone could have imagined where we would be with technology and surely it's going to be like that in the next 10 years"). All agree somewhat (+ 1 or + 2) with the statement; their z-scores barely vary: from 0.5 to 0.8.

These consensus items seem to indicate that while respondents tend to see the future very differently, as indicated by their Q-sorts, they are not wedded to their perceptions. Whether they are open-minded or merely confused by the flood of information about changes in their profession is open to interpretation. What seems certain, however, is that while the journalism students and educators in this study all have definite attitudes and ideas about their journey along the "superhighway," they are not be quite sure what lies around the bend. Some see that uncertainty as exciting; some see it as scary. Most probably see at least a little of each.

DISCUSSION AND CONCLUSION

Although this study did not seek to predict patterns of diffusion of new media knowledge or use based on this group's attitudes, diffusion theory does shed light on possible implications of these attitudes for the spread of new media knowledge and use.

Rogers defines diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system." (Rogers, 1995) Because the messages being communicated concern a new idea, some degree of uncertainty is involved; information is the means of reducing that uncertainty. The innovation may or may not be "objectively" new; certainly, many aspects of "new media technology" have been tested before, with

varying degrees of success. What is important is that the innovation be perceived as new. The recent flood of articles, in both the trade and scholarly press, certainly seem to position this technology as having an impact on journalists and journalism.

Individuals pass from first knowledge of an innovation, to formation of an attitude toward it, to a decision to adopt or reject it, to implementation, then to confirmation of that decision. (Rogers, 1995) Innovativeness is the degree to which a person (or organization) is relatively early or late in adopting new ideas. Innovators, the first 2.5 percent to adopt, are venturesome, excited by the possibilities of new ideas and eager to try them out. Behind them come the early adopters, who tend to be more closely socialized to the norms and values of their group and tend to be its opinion leaders. They are followed by the early and late majority and, finally, by the laggards.

Diffusion theory also incorporates the idea of a social system, bound by a common objective and constituting a boundary within which an innovation diffuses. Opinion leaders are at the center of interpersonal communication networks, allowing them to serve as social models whose innovative behavior is imitated by others in the system; indeed, the heart of the diffusion process, according to Rogers, consists of interpersonal exchanges and social modeling between the people who already have adopted and the people they, in turn, influence. (Rogers, 1995)

Stated in terms of diffusion theory, our Champions of Change -- while they may not currently be using new media technology as they define it -- are likely to become the early adopters, and perhaps even

the innovators, of new media technology. They are the people near the start of Rogers' s-shaped diffusion curve. Innovators are eager to try out new ideas and willing to accept the uncertainty that goes along with anything new. In the words of one of our Champions: "The possibilities are unlimited if we approach them with vision, creativity and a desire to put new media to uses that will benefit society." Seven of our 15 Champions of Change are in their late teens or 20s; as they move through their first jobs in the industry and assume positions of increasing authority, they seem likely to become the opinion leaders who take on "early adopter" roles and help guide other journalists through the twists and turns on the road ahead.

The early and late majority of adopters are more apt to come from our other factors. These people, who form the slope of the diffusion curve, are categorized by Rogers as somewhat more skeptical about change, willing to go along but also more deliberate in their evaluations of its impact. The factors focus on different concerns -- ranging from manipulation to a widening knowledge gap -- but only in a very few individual cases do their reservations seem likely to stand in the way of eventual adoption. Even our Pessimistic Prophets, who express the most profound doubts about new media technology, are unlikely laggards. Despite their misgivings about new media technology, they also seem to accept its inevitability and even admit to excitement about at least some of its potential aspects. In the words of one Prophet, explaining his strong disagreement with Statement 39, that interactive media will make journalists obsolete: "Journalists convert data to information. They will be needed."

Several additional aspects of diffusion theory are interesting

in light of this study, as well. For example, Rogers proposes that innovations likely to gain a more rapid acceptance are those perceived as having a high relative advantage, or as being better than the idea they supersede; journalists excited about the changes inherent in the technology, then, may see it as offering them a better way to get information to (and from) the public. Innovations with a high compatibility with existing values, past experiences and needs of potential adopters also have an advantage. Journalists who perceive new media as potentially expanding the number of viewpoints in the "marketplace of ideas" -- for instance, our Champions of Change and Laid-Back Liberals, who disagreed (- 3, z=-1.19, and - 4, z=-1.66, respectively) with Statement 21 ("New media potentially could decrease the number of viewpoints") -- may be more likely to embrace them than others, such as our Pessimistic Prophets, who are gravely concerned with technology's potential to be manipulative.

Of interest as well is the proposition that mass media channels are often most important for informing people about an innovation, while interpersonal channels are more important in persuading someone to adopt a new idea. (Rogers, 1995) The transfer of ideas is most effective when participants belong to the same groups or are drawn by the same interests -- those who, for instance, read the same trade publications or scholarly journals. Shared meanings and mutual language mean communication is likely to result in greater knowledge gain, attitude formation and change, and overt behavior change. (Rogers, 1995) When we talk about journalism students and educators as the client group for an innovation, however, mass media and interpersonal channels may overlap. The people who disseminate

information (be it to students or to the public) are themselves a primary reference group for those in their own industry. Thus, they may perform both a knowledge function and a persuasion function.

This study has considered the attitudes toward the new media among future journalists and current journalism educators, all of whom have been besieged with information about these technologies and now must play a central role in the further dissemination of additional information. It has attempted to increase our understanding of the concerns that may shape not only journalists' own decisions to adopt these innovations but also the way they structure communication about evolving technologies to their audience.

"May you live in interesting times," say the Chinese, offering in that single statement both a blessing and a curse. Journalists are part of an information industry that lies at the very center of sweeping changes, and the way they approach those changes will affect our entire society. Like it or not, journalists are, in many ways, in the driver's seat on this high-speed highway. It promises to be an interesting trip indeed.

REFERENCES

Brown, Steven R. (1980.) Political Subjectivity: Applications of Q Methodology in Political Science. New Haven, CT: Yale University Press.

Levy, Mark R. (1992.) "Editor's Note," symposium on virtual reality. Journal of Communication, 42: 3-4.

McKeown, Bruce, and Dan Thomas. (1988.) Q Methodology. Beverly Hills CA: Sage.

Moeller, Philip (1994.) "The Age of Convergence." American Journalism Review, January/February 1994: 34-39.

O'Neill, Patrick. (1994.) "Editorial Rights of Telephone Carriers." Journalism Quarterly, 71: 99-109.

Oppenheimer, Terry. (1993.) "Exploring the Interactive Future." Columbia Journalism Review, November/December 1993: 34-37.

Pavlik, John, and Andras Szanto. (1994.) Special Report: Separating Fact from Fiction on the Information Superhighway. Freedom Forum Media Studies Center Research Group. (Everette E. Dennis, executive director.) Preliminary report, April 1994: 5-9.

Rogers, E.M. (1995.) Diffusion of Innovations (4th ed.). New York: Free Press.

Vincent, Richard C. (1991.) Telecommunications Research Productivity of U.S. Communications Programs: 1984-89. Journalism Quarterly, 68: 840-851.

Wolff, Jennifer. (1994.) "Opening Up Online." Columbia Journalism Review, 33(4): 62-65.

TABLE I

STATEMENTS AND FACTOR Z-SCORES

STATEMENTS	FACTOR ARRAY Z'S 1	2	3	4
1.The possibilities created by new media technology are exciting.	2.2	1.3	.5	1.7
2.Soon we'll be in a situation where we'll have access to any information we want instantly, updated continuously. When we pick up the morning paper in the afternoon it's outdated. That won't happen with new media.	.6	-.4	-.7	1.5
3.We have to struggle with the question of whether or not just because we can deliver advertising to more targeted individuals than ever before, should we do it and will people stand for it?	.5	.7	.5	.2
4.There are some serious ethical problems related to the new media technology.	1.1	2.1	.7	-.3
5.People in the media will have to think more about the content of of news and less about the specific means of telling the story.	-.4	-1.1	.3	1.3
6.New technologies will make it possible and necessary for those those in the news business to incorporate feedback into what they produce.	1.3	-.1	-.3	1.7
7.New media technology will eventually eliminate my job.	-1.8	-.9	-1.7	-2.1
8.New media technology developments will help to improve my quality of life.	.7	-.8	-.2	1.5
9.For the vast majority in the real world, new media technology is going to be something they'll read about but it's not going to affect their lives to any great degree. At least not for 5 to 10 years.	-.8	1.0	1.9	.5
10.I'm truly ambivalent about the new media.	-.8	-.3	-.1	-.9
11.I have a strong sense of being able to absorb less and less of the increasing amount of information available.	.2	1.0	-.4	-.9
12.The new media won't fundamentally change the way we communicate and gain knowledge.	-1.3	-2.2	.6	-1.0
13.The ability to select only what you want may result in missing valuable cues about the world. For example, if you want to read only sports, you may at least glance at the front page and note the headlines, thereby getting some other news.	.6	1.2	1.4	.7
14.I think the new media will create a huge generation gap as to how we conceive knowledge and what knowledge means.	-.0	.7	.4	1.0
15.The new media will call for different ways of teaching people how to write and work for the media.	1.8	1.0	.8	.9
16.I am not concerned about the potential for manipulation.	-.4	-2.4	-1.0	-.9
17.The new media are more authoritarian. Huxley and Orwell thrown into one. You won't even realize you're being controlled or manipulated.	-.9	.8	.1	-.7
18.I would guess there is a big difference in perspective about the new media depending on age.	.9	.3	1.7	1.0
19.A tool is something you manipulate; technology manipulates you. That's a danger of new media.	-1.0	1.1	-1.6	-.1

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20.I'm apprehensive about the future.	-.6	.5	-.8	-1.1
21.New media potentially could decrease the number of viewpoints.	-1.2	.5	-1.7	.8
22.Privacy is not a problem with the new media.	-1.4	-2.0	-1.6	-.8
23.The government should not regulate new media.	.2	-.7	.7	-1.1
24.New media technology won't have much influence on entertainment	-1.5	-1.4	.1	-.9
25.New media technology can help create a better sense of community.	.7	-1.3	-1.1	1.9
26.If, as author/journalism John Katzenbach says, "information is the currency of journalism," you had better learn to operate to operate the ATM, because there often isn't a teller anymore.	.8	.2	-.1	.1
27.From the consumer's standpoint, the information future is rich with choice and possibility. For journalists, it is much more troubling...people won't need a mediator anymore.	-.9	-.8	-.4	-1.2
28.New media technology will be a lot harder to introduce than anyone expected.	-.7	-.3	.4	.2
29.User control is one of the most attractive features of interactive media, permitting people to retrieve what they want when they want it.	1.7	.6	1.2	.4
30.It is important for the future of the newspapers that they try to exploit their information franchise to develop products for readers that use existing & emerging electric technologies.	1.7	.3	-.1	.6
31.If newspapers grasp the inherent values of the changed technology, they can become even more important than they have been because they are the databases of local communities.	1.5	.7	-.1	.4
32.When I look at where we were 10 years ago and where we are today, I don't know if anyone could have imagined where we would be with technology and surely it's going to be like that in the next 10 years.	.7	.5	.6	.8
33.I want electronic interaction to be as individualistic and anarchic as it has been.	.4	-.3	1.1	-.5
34.Education is lagging technology in general.	.7	1.4	.8	.0
35.The new technologies are not providing new information; merely the same stuff in different packages.	-.4	-.1	.9	-1.5
36.Having been exposed to the new media technology, I don't want to do without it.	1.0	.0	.1	.2
37.What now passes for the information superhighway is merely a slogan in search of a mission.	-.2	-.1	-.2	-.9
38.As television becomes more democratic by offering greater choice, it no longer will provide a common forum for the sort of pluralistic debate that helps make a democracy work.	-.5	.6	-1.1	-.8
39.Interactive media will make journalists obsolete.	-1.7	-1.5	-2.0	-1.0
40.Only computer-literate people will be able to use emerging interactive media.	-.9	.2	.6	.7
41.The new TV could bring families closer. Because it would so many of our entertainment and informational needs at home, family members should find themselves gathered in the home more often.	-.2	-1.6	-1.1	-.1
42.The new media will narrow the information gap between the rich and the poor.	-.5	-1.3	-1.5	-1.2

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43.Interactive media are impersonal and depersonalizing.	-.8	1.0	-1.1	-1.7
44.Interactive media are elitist.	-.4	.8	1.5	.3
45.Children are more comfortable with computers than are adults.	.9	.1	1.3	1.3
46.The capabilities of interactive media are over-rated.	-1.3	.1	-.4	-.6
47.Increased microcasting may ultimately spell extinction for the big commercial networks.	.3	.1	-.7	-.6
48.New media technology will deepen divisions among the social classes.	-.2	.9	1.6	1.1

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